Michael Roark

Machine Learning Engineer

roarkm.com

roarkm.dev@gmail.com

EDUCATION

M.A. Mathematics | Emphasis in Statistics & M.L. — San Francisco State University — 2022

Thesis: *Formal Verification of Neural Networks via Optimization Methods*

B.A. Mathematics | Minor in Computer Science — San Francisco State University — 2019

EXPERIENCE

Ebay Inc. | Software Engineer II | Ebay Valet Initiative — SF, CA — 2016 - 2017

Ebay Valet is a white glove consignment service for trusted Ebay partners.

- Enabled v1 release of Ebay Valet warehousing tools by developing Auth & Auth security solution.
- Served as team Security Champion ensuring project adherence to E-Commerce & security best practices.
- Full-stack contributor to microservice based warehousing tools.
- Tech Stack: Golang, NodeJS, Java, Mongo DB, React, Material UI, Kubernetes, Nginx

Mocana Corp. | Member of Technical Staff | Mobile App Protection — SF, CA — 2013 - 2015

Mocana's MAP suite offers configurable security solutions for mobile enterprise apps.

- Met key client needs by developing cross-tab Javascript support in flagship secure iOS Browser.
- Full stack contributor for cross platform (iOS/Android) application command/control channel.
- Tech Stack: iOS/Objective-C, C, C++, Java Spring, Ruby-on-Rails, Apache

Andover Consulting Group L.L.C. | Lead Dev. | In-House Software — SF, CA — 2011 - 2013

Andover ran multiple online store fronts for enterprise hardware.

- Increased sales efficiency by developing auto-arbitrage framework for managing inventory pricing.
- Full stack contributor for in house warehousing and point-of-sale software suite.
- Tech Stack: PHP, MySQL, jQuery, Bash, Apache

SKILLS

Languages: Python, C++, Bash, Matlab, R, SQL

Libraries & Tools: Git, Docker, Jupyter, Pandas, Numpy, PyTorch, CVXPY, MySQL, Jira

MACHINE LEARNING PROJECTS

Formal Verification of Neural Networks | Optimization, Python, PyTorch, Numpy, CVXPY — 2022

Python implementations of optimization based algorithms for verifying robustness of classifier networks.

Time Series Analysis | Forecasting, Auto-regression, LSTMs, Python, PyTorch — 2020

Comparison of time-series analysis and forecasting methods on a synthetic dataset.

Baum-Welch Algorithm | Statistics, Python, Numpy — 2019

Implementation of the Baum-Welch algorithm for estimating the parameters of a Hidden-Markov model from a sample sequence.

StereographiCam | Machine Vision, iOS, Objective-C, OpenCV, C++ — 2017

StereographiCam was a machine-vision project which synchronized multiple iOS cameras to capture and display stereographic image tuples.